B39

PN - CN1120555 A 19960417

TI - Process for preparing linear copolyesters containing omega-hydroxycarboxylic acid units

AB - The process for preparing straight-chain polyester copolymer containing omega-carboxyl acid unit from polyester having diglycol unit containing at least 90 mol% of polyethylene terephthalate unit, known catalyst and stabilizer includes adding at least one lactones compound and other additives other than catalyst to melted polyester in an enclosed system, thoroughly mixing, and further processing at 265-310 deg.C for residence time of less than 30 min..

PA - INVENTA AG (CH)

IN - STIBAL WERNER (DE); NOTHHELFER WERNER KAGI KLAUS (DE)

AP - CN19950108661 19950821

PR - CN19950108661 19950821

DT - I

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AN - 1996-107281 [31]

TI - Linear, omega-hydroxy-acid unit-contg. co-polyester prodn. - by reacting polyethylene terephthalate with a lactone, pref. epsilon-caprolactone, in an extruder with a downstream static mixer

AB - EP-697428 The prodn. of linear copolyesters (I) contg. omega-hydroxy-carboxylic acid (omega-OHCA) units from polyesters (II) contg. at least 90 mole% polyethylene terephthalate (PET) units, normal amts. of diethylene glycol (DEG) units and opt. catalysts and stabilisers, comprises (a) intensively mixing the polyester melt (II) with up to 10 mole% lactone(s) and opt. other additives, but without adding more catalyst, for less than 30 mins. at 265-310deg.C at a pressure higher than the lactone vapour pressure, in a gastight system consisting of a tube fitted with an inlet and a downstream mixer, and (b) working up, discharging or granulating and then further processing the prod. to give (I) with a statistical distribution of omega-OHCA units and a viscosity equal to that of (II). Also claimed are post-condensed linear copolyesters with statistically-distributed omega-OHCA units (I) obtd. by this process.

- USE - Used for the prodn. of hollow prods., esp. bottles and containers, and fibres and filaments (claimed).
- ADVANTAGE - Enables the simple and rapid prodn. of lower-melting ''bottle grade'' copolyester with the same viscosity as (II), without the disadvantages of prior-art processes (rapid increase in viscosity, chain branching, long reaction times, special appts., added catalyst, lack of transparency in the prod., etc.).
- (Dwg.0/0)

IW - LINEAR OMEGA HYDROXY ACID UNIT CONTAIN CO POLYESTER PRODUCE REACT POLYETHYLENE TEREPHTHALATE LACTONE PREFER EPSILON CAPROLACTONE EXTRUDE DOWNSTREAM STATIC MIX

PN - MX194579 B 19991213 DW200110 C08G63/060 000pp
- EP0697428 A2 19960221 DW199612 C08G63/91 Ger 009pp
- DE4429524 A1 19960222 DW199613 C08G63/60 008pp
- CZ9502091 A3 19960313 DW199618 C08G63/60 000pp
- ZA9506554 A 19960626 DW199631 C08G0/00 023pp
- SK9501008 A3 19970205 DW199715 C08G63/183 000pp
- EP0697428 A3 19970502 DW199729 C08G63/91 000pp
- US5656700 A 19970812 DW199738 C08G63/91 006pp

- CN1120555 A 1996[illegible]7 DW199745 C08G63/20 000pp
- DE4429524 C2 19971218 DW199803 C08G63/60 009pp
- TW318859 A 19971101 DW199809 C08G63/78 000pp
- EP0697428 B1 19991201 DW200001 C08G63/91 Ger 000pp
- DE59507315G G 20000105 DW200009 C08G63/91 000pp
- ES2139795T T3 20000216 DW200016 C08G63/91 000pp

IC - C08G0/00 ;C08G63/060 ;C08G63/078 ;C08G63/183 ;C08G63/20 ;C08G63/60 ;C08G63/78 ;C08G63/91 ;C08J5/00 ;C08L67/00 ;C08L67/000 ;D01F6/84

MC - A05-E02 A05-E04A A10-D03 A10-D05 A11-B07 A12-P01B A12-P06A A12-S05X F01-D04

DC - A23 A92 F01

PA - (INVE) EMS-INVENTA AG
- (INVE) INVENTA-FISCHER AG

IN - NOTHHELFER W K; STIBAL W; WERNER K; KAEGI W; NOTHHELFER K; KAGI W

EPAB - EP697428 The prodn. of linear copolyesters (I) contg. omega-hydroxy-carboxylic acid (omega -OHCA) units from polyesters (II) contg. at least 90 mole% polyethylene terephthalate (PET) units, normal amts. of diethylene glycol (DEG) units and opt. catalysts and stabilisers, comprises (a) intensively mixing the polyester melt (II) with up to 10 mole% lactone(s) and opt. other additives, but without adding more catalyst, for less than 30 mins. at 265-310 deg. C at a pressure higher than the lactone vapour pressure, in a gastight system consisting of a tube fitted with an inlet and a downstream mixer, and (b) working up, discharging or granulating and then further processing the prod. to give (I) with a statistical distribution of omega -OHCA units and a viscosity equal to that of (II). Also claimed are post-condensed linear copolyesters with statistically-distributed omega -OHCA units (I) obtd. by this process.
- USE - Used for the prodn. of hollow prods., esp. bottles and containers, and fibres and filaments (claimed).
- ADVANTAGE - Enables the simple and rapid prodn. of lower-melting ''bottle grade'' copolyester with the same viscosity as (II), without the disadvantages of prior-art processes (rapid increase in viscosity, chain branching, long reaction times, special appts., added catalyst, lack of transparency in the prod., etc.).

USAB - US5656700 A process for preparing a random linear copolyester of bottle-grade quality which contains omega-hydroxycarboxylic acid units, from a polyester that contains at least 90 mol % polyethylene terephthalate units and the known catalysts and stabilizers, comprising
- providing a polyester melt containing at least 90 mol % polyethylene terephthalate units,
- adding at least one lactone, optionally along with further additives, to the melt but without additional catalysts in a system sealed off from gas exchange and at a higher pressure than the lactone vapour pressure, in an amount sufficient to provide a lowered melting point random linear copolyester and in a proportion of 0.5 to 10 mol % based on the final melt, where the sealed system is a pipe which is under pressure and has a dosing opening and with a static mixer downstream of the dosing opening,
- intensively mixing the lactone with the melt with the static mixer within the pipe, and maintaining a total dwell time in the pipe of less than 30 minutes and a temperature in the range of 265 deg. to 310 deg. C. , to produce a copolyester identical in viscosity to the starting polyester and containing randomly distributed omega-hydroxycarboxylic acid units in the polymer chains.(Dwg.1/1)

AP - MX19950003601 19950821;EP19950112877 19950816;DE19944429524 19940819;CZ19950002091 19950816;ZA19950006554 19950804;SK19950001008 19950815;EP19950112877 19950816;US19950516177 19950817;CN19950108661

19950821;DE19944429524 19940819;TW19950108593 19950817;EP19950112877
19950816;DE19950507315 19950816;EP19950112877 19950816; [Based on
EP0697428] ;EP19950112877 19950816; [Based on EP0697428]

PR - DE19944429524 19940819;CN19950108661 19950821